

CLAIMS:

1. Utilization of at least one aminopeptidase inhibitor
5 for the production of a medicament used in the treatment
of tumor diseases and/or immune diseases, whereby the at
least one aminopeptidase inhibitor causes blocking of
polarization of invasive human or animal tumor cells
and/or immune cells by modifying at least one surface
10 protein CD13 as member of a protein network on the surface
of the tumor cells and/or immune cells, whereby the
protein network comprises up to 30 surface proteins from a
group consisting of

15 1. CD4 2. CD8 3. HLA-DR 4. HLA-DQ 5. CD3
6. CD26 7. CD38 8. CD45RA 9. CD16 10. CD57
11. CD56 12. CD7 13. CD54 14. CD58 15. CD138
16. CD13 17. CD62L 18. CD71 19. CD11b 20. CD36
21. CD29 22. CD49d 23. CD18 24. CD49f 25. CD19
20 26. CD2 27. CD20 28. CD10 29. CD44 30. CD80.

2. The utilization as claimed in claim 1
characterized in that
said at least one aminopeptidase inhibitor is an
25 aminopeptidase inhibitor of the homophthalimide type and/or
actinonin and/or bestatin, and/or an antibody, in
particular a monoclonal antibody, against one of said
surface proteins.

30 3. The utilization as claimed in claim 1
characterized in that

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said immune diseases are autoimmune diseases or rejections of transplanted organs or allergies, in particular allergies of the respiratory tract.

5 4. The utilization as claimed in claim 1 or 2

characterized in that

for producing said medicament, at least one additional inhibitor is used which inhibits at least one surface protein that is not an aminopeptidase.

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5. The utilization as claimed in claim 1

characterized in that

at least one aminopeptidase inhibitor and/or at least one additional inhibitor causes a modification of at least one
15 surface protein of said tumor cells and/or immune cells which surface protein is responsible for adhesion to endothelial cells and/or extracellular structures, in particular organ-specific endothelial cells and/or organ-specific extracellular structures.

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6. The utilization as claimed in claim 1

characterized in that

at least one aminopeptidase inhibitor and/or at least one additional inhibitor will cause modification of the
25 adhesive functions of endothelial cells.

7. The utilization as claimed in claim 1

characterized in that

the expression of at least one surface protein, in
30 particular of an adhesion molecule, may be influenced by means of at least one aminopeptidase inhibitor and/or at least one additional inhibitor.

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8. A pharmaceutical preparation which can be produced using at least one aminopeptidase inhibitor or a combination of at least one aminopeptidase inhibitor and
5 at least one additional inhibitor as claimed in claims 1 to 7.

9. A method for identifying at least one aminopeptidase inhibitor which causes blocking of polarization of
10 invasive human or animal tumor cells and/or immune cells, comprising:

a) detecting surface protein combinations of a protein network which are on the surface of the untreated tumor cells and/or immune cells, whereby the protein network
15 comprises up to 30 surface proteins from a group consisting of

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|-------------|-----------|-----------|-----------|-----------|
| 1. CD4 | 2. CD8 | 3. HLA-DR | 4. HLA-DQ | 5. CD3 |
| 6. CD26 | 7. CD38 | 8. CD45RA | 9. CD16 | 10. CD57 |
| 20 11. CD56 | 12. CD7 | 13. CD54 | 14. CD58 | 15. CD138 |
| 16. CD13 | 17. CD62L | 18. CD71 | 19. CD11b | 20. CD36 |
| 21. CD29 | 22. CD49d | 23. CD18 | 24. CD49f | 25. CD19 |
| 26. CD2 | 27. CD20 | 28. CD10 | 29. CD44 | 30. CD80; |

25 b) treating said or similar tumor cells and/or immune cells with at least one aminopeptidase inhibitor;

c) detecting said surface protein combinations of the protein network which are on the surface of the treated tumor cells and/or immune cells; and

30 d) comparing the surface protein combinations detected in steps a) and c), whereby the at least one aminopeptidase inhibitor, if there is a divergence of the

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surface protein combinations detected in step a) from the surface protein combinations detected in step c) in that there is at least one modification of surface protein CD13, will cause blocking of polarization of said tumor
5 cells and/or immune cells.

10. The method as claimed in claim 9

characterized in that

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said method includes a further step, following step d), in
10 which the at least one aminopeptidase inhibitor identified in step d) is added to at least one polarizing tumor cell and/or immune cell, and the further development of the at least one polarizing tumor cell and/or immune cell is detected.

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11. The method as claimed in one of claims 9 or 10

characterized in that

said method includes a further step, following step d), in which any binding of the untreated tumor cells and/or
20 immune cells to organ-specific endothelial cells and/or to organ-specific extracellular structures is detected, in which any binding of the tumor cells and/or immune cells treated with the at least one aminopeptidase inhibitor identified in step d) to the organ-specific endothelial
25 cells and/or to the organ-specific extracellular structures is detected, and in which the detected bindings are compared.

12. A method for identifying at least one inhibitor which
30 - in combination with at least one aminopeptidase inhibitor - will cause blocking of polarization of

invasive human or animal tumor cells and/or immune cells, comprising:

a) detecting surface protein combinations of a protein network which are on the surface of the untreated tumor
5 cells and/or immune cells, whereby the protein network comprises up to 30 surface proteins from a group consisting of

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|------------|-----------|-----------|-----------|-----------|
| 1. CD4 | 2. CD8 | 3. HLA-DR | 4. HLA-DQ | 5. CD3 |
| 10 6. CD26 | 7. CD38 | 8. CD45RA | 9. CD16 | 10. CD57 |
| 11. CD56 | 12. CD7 | 13. CD54 | 14. CD58 | 15. CD138 |
| 16. CD13 | 17. CD62L | 18. CD71 | 19. CD11b | 20. CD36 |
| 21. CD29 | 22. CD49d | 23. CD18 | 24. CD49f | 25. CD19 |
| 26. CD2 | 27. CD20 | 28. CD10 | 29. CD44 | 30. CD80; |

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b) treating said or similar tumor cells and/or immune cells with at least one potential inhibitor which is not directed against an aminopeptidase;

c) detecting the surface protein combinations of the
20 protein network which are on the surface of the treated tumor cells and/or immune cells; and

d) comparing the surface protein combinations detected in steps a) and c), whereby the at least one inhibitor, if there is a divergence of the surface protein combinations
25 detected in step a) from the surface protein combinations detected in step c) in that there is at least one modification of a surface protein, will be suitable for blocking polarization of said tumor cells and/or immune cells.

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13. The method as claimed in claim 12
characterized in that

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said or the similar tumor cells and/or immune cells are also treated with at least one aminopeptidase inhibitor in step b), with the combination of the at least one inhibitor and the at least one aminopeptidase inhibitor, if there is a divergence of the surface protein combinations detected in step a) from the surface protein combinations detected in step c) in that there is at least one modification of a surface protein CD13, will cause blocking of polarization of the tumor cells and/or immune cells.

14. The method as claimed in one of claims 12 or 13 **characterized in that**

said method includes a further step, following step d), in which the at least one aminopeptidase inhibitor identified in step d) or a combination of the at least one inhibitor identified in step d) and at least one aminopeptidase inhibitor is added to at least one polarizing tumor cell and/or immune cell, and the further development of the at least one polarizing tumor cell and/or immune cell is detected.

15. The method as claimed in one of claims 12 to 14 **characterized in that**

said method includes a further step, following step d), in which any binding of the untreated tumor cells and/or immune cells to organ-specific endothelial cells and/or to organ-specific extracellular structures is detected, in which any binding of the tumor cells and/or immune cells treated with the at least one inhibitor identified in step d) or with a combination of the at least one inhibitor identified in step d) and at least one aminopeptidase

inhibitor to the organ-specific endothelial cells and/or to the organ-specific extracellular structures is detected, and in which the detected bindings are compared.

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